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FEDERAL - STATE COOPERATIVE

SNOW SURVEYS and WATER SUPPLY FOR ECASTSMENT OF AGRICULTURE

for

# **OREGON**

UNITED STATES DEPARTMENT of AGRICULTURE
SOIL CONSERVATION SERVICE
and
OREGON AGRICULTURAL EXPERIMENT STATION

Data included in this report were obtained by the agencies named above in cooperation with the Oregon State Engineer, U. S. Forest Service, National Park Service and other Federal, State and local organizations.

JAN. 1, 1957

# UNITED STATES DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

TO RECIPIENTS OF COOPERATIVE SNOW SURVEY AND WATER SUPPLY FORECAST REPORTS:

Snow surveys in the west are conducted each year at more than 1200 snow courses. Basin and Province or State snow survey reports summarizing the results of the measurements and forecasts of seasonal runoff and water supply are issued by the Soil Conservation Service, U. S. Department of Agriculture and some of its cooperators; the Water Rights Branch of the British Columbia Department of Lands and Forests; and the California Division of Water Resources.

Copies of the various federal-state cooperative snow survey reports listed below may be secured by writing to:

Head, Water Supply Forecasting Section Soil Conservation Service 209 S. W. 5th Avenue Portland 4, Oregon

#### BASIN REPORTS:

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	Issued monthly February through May by SCS and Colorado Experiment Station, Fort Collins, Colorado.*
Columbia River Basin	Issued monthly January through May by Soil Conservation Service, Boise, Idaho.*
Upper Missouri River Basin	Issued monthly February through May by SCS and Montana Agricultural Experiment Station, Bozeman Montana.*
West-Wide Water Supply Outlook	Issued April 1 by Soil Conservation Service and Co-operators, Portland, Oregon.
TATE REPORTS:	
Arizona	Issued semi-monthly January 15 through April 1 by SCS and Salt River Valley Water Users Association, Phoenix, Arizona.*
Nevada	Issued monthly February through April by SCS and Nevada State Engineer, Reno, Nevada.*
Oregon	Issued monthly January through May by SCS, Portland, Oregon, and Oregon Agricultural Experiment Station.*
Utah	Issued monthly January through May by SCS, Salt Lake City, Utah, and State Engineer of Utah and Utah Agricultural Experiment Station.*
Washington	Issued monthly February through May by SCS, Spokane, Washington, and State Department of Conservation and Development.*
Wyoming	Issued monthly February through May by SCS, Casper, Wyoming, and State Engineer of Wyoming.*

\*Special reports are issued as needed.

The British Columbia reports are issued February 1 through June 1 and may be secured from Comptroller, Water Rights Branch, Department of Lands and Forests, Parliament Building, Victoria, B. C.

The California reports are issued monthly February 1 through May 1 and may be secured from Division of Water Resources, California Department of Public Works, Sacremento, California.

The annual water supply forecasts of the Weather Bureau are available in monthly bulletins published from January through May. These bulletins entitled, "Water Supply Forecasts for the Western United States" may be obtained from River Forecast Center, Weather Bureau, 712 Federal Office Building, Kansas City 6, Missouri.

## FEDERAL-STATE COOLERATIVE

# SNOW SURVEYS AND WATER SUPPLY FORECASTS

FOR

OREGON

. Issued

January 8, 1957

Report Prepared

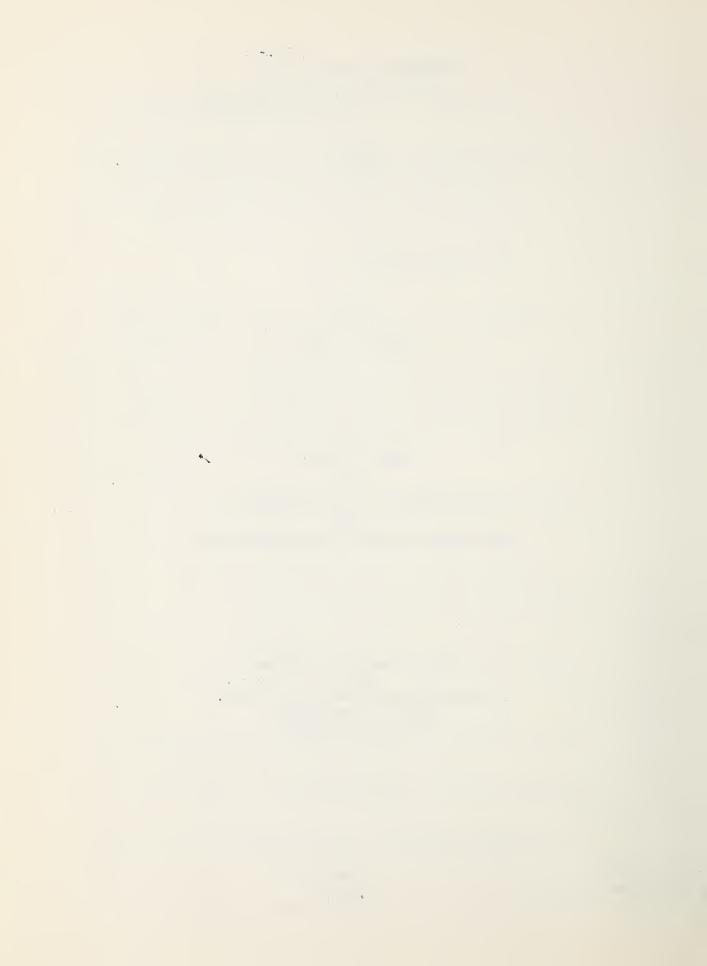
W. T. Frost, Snow Survey Supervisor and Manes Barton, Assistant Water Forecaster

Soil Conservation Service and Oregon Agricultural Experiment Station 209 S. W. 5th Avenue Portland 4, Oregon

Issued by:

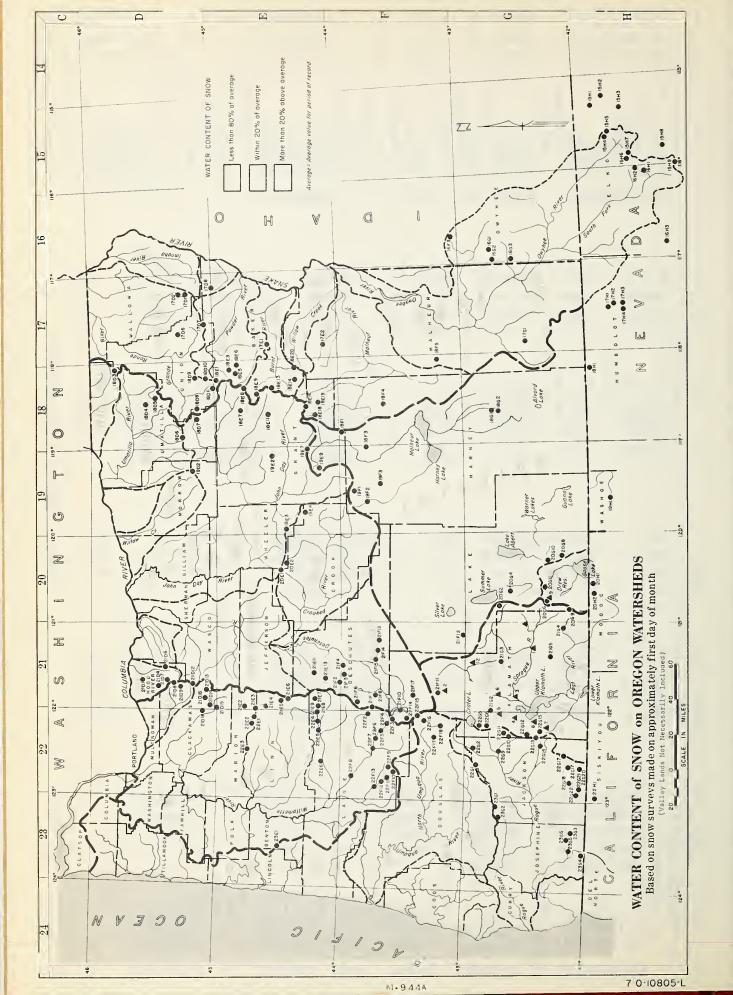
Hareld E. Tower
State Conservationist
Soil Conservation Convine

F. Earl Price
Director
Oregon Agricultural Experiment Station



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# PRELIMINARY WATER SUPPLY OUTLOOK FOR OREGON

January 1, 1957

Outlook for Oregon's 1957 water supplies is not good with only slightly more than half the normal amount of snow now present in the mountains. Some areas have much less. Stored water supplies are mostly well above average.

SNOW-COVER: Water content of mountain snow-cover as measured at 83 snow courses averages 56 percent normal as compared with last year at this date when it was 140 percent. Snow-cover is all at higher elevations.

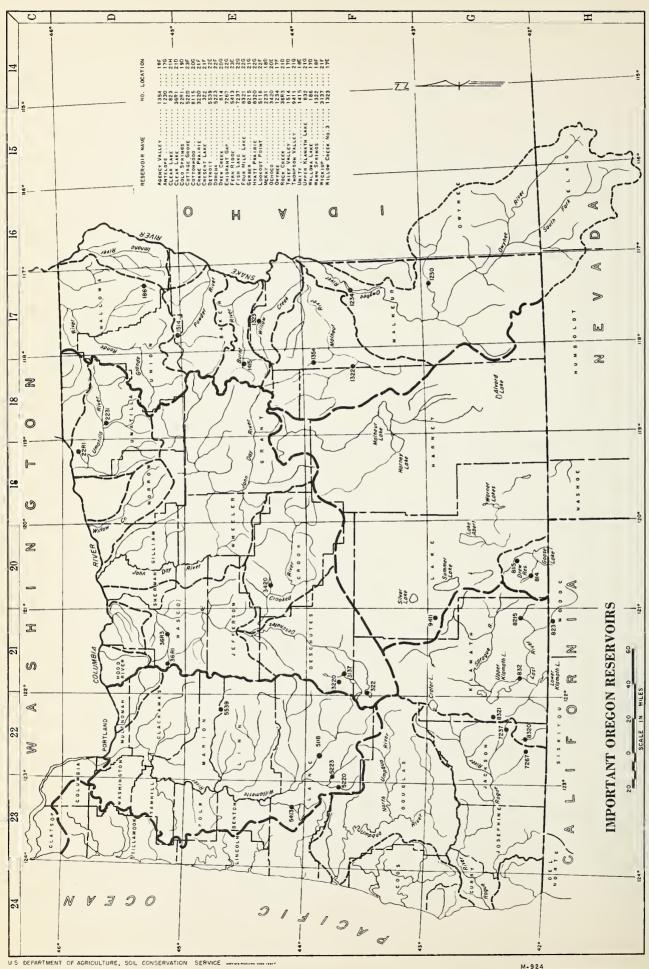
Normally, about 35 to 40 percent of the total winter's snow is accumulated by January 1. The remaining winter months will need to produce much above normal snowfall to provide average water supplies in 1957.

- SOIL MOISTURE: Wetness of soils in mountain watersheds varies from extremely wet, as in the Owyhee and Goose Lake watersheds, to dryer than desirable, as in the Crooked and Umatilla River areas.
- RESERVOIRED WATER: Stored water in 20 important Oregon irrigation reservoirs is now 41 percent greater than last year and 37 percent greater than the 15 year average (1938-52). Only four reservoirs in the state are reporting below average storage. These are McKay and Cold Springs on the Umatilla, Unity on the Burnt, and Agency Valley on the Malheur.
- PRECIPITATION: State-wide precipitation this fall (September through November, 1956) averages about 77 percent normal (1938-52). The figure for December is also low at about 77 percent average.
- STREAMFLOW: Present outlook for April-September streamflow is for below average flows unless the balance of the winter produces above normal snow-cover. Streamflow October through December has been close to normal to above normal except on the John Day which is only 78 percent and the Umatilla which is 88 percent.

<sup>2</sup>From preliminary data furnished by U. S. Geological Survey, Portland, Oregon.

<sup>1</sup> From preliminary data furnished by U. S. Weather Bureau, Portland, Oregon.





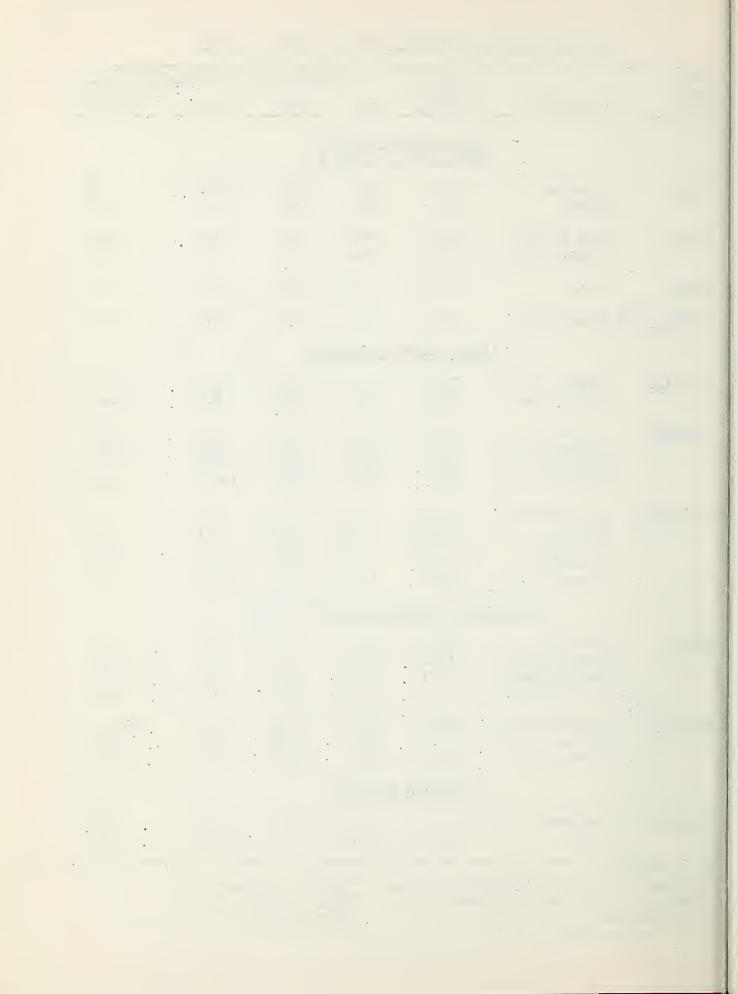
BASIN		USABLE	USA	BLE STORA	GE - 1000	ACRE FEET
and/or STREAM	RESERVOIR	CAPACITY 1000s AF	1957	1956	1955	15-Yr.Avg. 1938-52
		UPPER COLUMB:	IA DRAINA	<u>IGE</u>		
		Lower Snake	in Orego	n		
Owyhee	Antelope Owyhee	36.5 715.0	N.R. 453.7	N.R. 143.1	N.R. 156.0	2.5 <sup>b</sup> 419.0 <sup>c</sup>
Malheur	Warm Springs Agency Valley	191.0 60.0	99.6 20.5	22.3 12.6	18.9 17.0	63.8 29.9
Burnt	Unity	25.2	6.2	11.7	2.7	7.4°
Grande Ronde	Wallowa Lake	40.9	33.0	27.8	17.8	19.2
		LOWER COLUMB	LA DRAINA	GE		
Umatilla	McKay Cold Springs	74.0 50.0	15.9 15.1	28.1 22.9	6.9 8.1	27.6 21.1
<u>Deschutes</u>	Ochoco Crescent Lake Crane Prairie Wickiup	46.0 54.9 55.3 203.0	24.4 61.2 50.1 184.1	15.3 43.2 45.6 90.8	21.7 25.4 37.1 190.6	16.4 38.5 27.6 75.5 <sup>d</sup>
Willamette	Cottage Grove Dorena Fern Ridge Detroit Lookout Pt.	30.1 <sup>a</sup> 70.5 <sup>a</sup> 94.2 <sup>a</sup> 340.0 <sup>a</sup> 350.0 <sup>a</sup>	0.0 0.3 0.3 5.5 72.5	10.2 29.9 84.3 164.0 230.8	1.0 8.9 2.2 25.0 29.0	0.5 <sup>d</sup> 4.5 <sup>e</sup>
	OREGON	AND CALIFORN	NIA COAST	DRAINAGE		
Rogue	Fish Lake Fourmile Lake Emigrant Gap Hyatt Prairie	7.8 16.1 8.3 16.1	5.8 12.5 5.4 11.2	3.7 5.2 8.3 2.9	5.1 8.3 1.0 9.4	4.0 6.2 4.0 4.1
Klamath	Upper Klamath Gerber Clear Lake		407.8 51.5 300.9	465.4 46.8 224.1		299.4 31.6° 182.0°
		INTERIOR I	DRAINAGE			
Goose Lake	Cottonwood Drew	4.1 62.5	N.R. 37.5	2.3 45.7	0.1 23.2	0.0 <sup>f</sup> 32.6 <sup>g</sup>

N.R.--No Report.

aStorage space reserved for flood control.
b1942-43, 1949-50 and 1952 excepted.
c1938 excepted.
d1938-1942 excepted.

el938-43 excepted fl942 and 1944 excepted.

g1942 excepted.



# COMPARISON OF SNOW COVER WITH THAT OF PREVIOUS YEARS

The following tabulation of Oregon stream basins presents the water content of the snow about January 1, 1957, as percent of the same date in 1956 and average.

	No. of	Yrs.	January 1, 1	957 Water
DRAINAGE	Courses	of	Content as p	ercent of
	Averaged	Record	1956	1938-52
				Average
UPPER COLUMBIA DRAINAGE (Lower	Snake in	Oregon)		
Owyhee River	2	12-15	60	61
Malheur River	3	12-15	33	35
Burnt River	3 2 3 2	13-15	32	35
Powder River	3	13-15	61	90
Grande Ronde River	2	12-15	81	122
LOWER COLUMBIA DRAINAGE				
John Day River	4	12-15	64	91
Deschutes River	2	12-15	33	50
Hood River	2	15	31	47
Willamette Valley Streams			·	
Sandy River	2	15	31	47
Clackamas River	1	15	No Snow	
Santiam Rivers	3 2	15	27	40
McKenzie River		15	32	45
Middle Fork Willamette Rive		5-9	21	
Coast Fork Willamette River	r 5	5-8	6	
OREGON AND CALIFORNIA COAST DRA	AINAGE			
Umpqua River	1	15		63
Rogue River	5 .	12-15	37	51
Klamath Lake Basin	13	12-15	28	43
	رـــ	-~·-)	20	42
INTERIOR DRAINAGE				
Goose Lake Basin	2	12-15	No Snow	
Harney Basin	4	12-15	28	28
Chewaucan R.	ĩ	12	No Snow	
	_			

- ... - ... e to seq The Same 

SNOW COVER MEASUREMENTS									
			1957 : Past Record						
DRAINAGE BASIN	No.		Date		Water				Previous
and SNOW COURSE	or State	Elev.	of Survey	Depth (In.)		:1956	1955		Yrs. of Record
	PPER	COLU LOWER S	***************************************						
Bear Creek Upper Jack Creek Fox Creek Lower Jack Creek Rodeo Flat Big Bend Fry Canyon Gold Creek Silver City South Mountain No Taylor Canyon Tremewan Ranch	15H1 16H2 15H2 16H1 15H6 15H4 15H7 15H5 16F3 .2 16G1 15H9 15H8	7800 7250 6800 6800 6700 6700 6600 6400 6340 6200 5700	12-29 1-3 12-29 1-3 1-2 1-2 1-2 12-30 12-28 1-2	33 14 12 6 5 8 3 T 12 10 T	8.9 4.1 2.6 1.3 2.5 0.8 T 4.2 2.8 T	11.8 3.6 4.3 T 3.9 5.6 4.6 2.9 6.2 5.5 4.1 1.4		    6.6** 4.8**	1 1 1 1 1 1 10 12 1
MALHEUR RIVER  Blue Mtn. Springs Lake Creek Rock Spring Stinking Water Eldorado Pass	18E16 18E18 18F1 18F4 18E20	5900 5120 5100 4800 4600	1-3 Not 12-31 1-1 1-1	13 Measur 0.5 0.0	3.5 ed 0.2 0.0	8.1 5.9 2.0 1.1 0.9	5.0  0.8 4.0	6.3  2.5** 1.9**	20 4 19 12 1
BURNT RIVER									
Dooley Mountain Blue Mtn. Summit Tipton Eldorado Pass	17E1 18E13 18E9 18E20	5430 5098 5100 4600	1-2 1-2 1-2 1-1	6 7 8 0	0.9 1.8 1.8 0.0	4.0 4.5 5.6 0.9	2.1 2.1 3.9	3.8** 3.9 	18 21 4 1
POWDER RIVER									
Anthony Lake Goodrich Lake Dooley Mountain Eilertson Meadows	18E1 18E6 17E1 18E3	7125 6775 5430 5400	12-27 Not 1-2 12-29	39 Measur 6 11	13.8 ed 0.9 2.6	17.9  4.0 6.5	8.9  2.1 5.4	11.3**  3.8** 4.1**	17 4 18 14

<sup>\*</sup> Not located directly on this drainage area.

<sup>\*\*</sup> Average is for less than 15 years of record in the 1938-52 period but not less than 5 years.

\*. 

DRAINAGE BASIN   No.   Fate   Snow   water   water   chient(In.)   Previous   Previous		<del></del>		SNOW COVER MEASUREMENTS							
DRAINAGE BASIN   No.   Correct   Pate   Show water   Water   1738-52   Yrs.   1738-52   Yrs.   Show course   State   Elev.   Survey (In.) (In.) :1756   1755   Avg.   Recourse   Recourse						00 111	·	Past Record			
and or SNO. COURSE State Elev. Survey (In.) (In.):1956 1955 Avg. Reco  GRANDE RONDE RIVER  Anthony Lake 18E1 7125 12-27 39 13.8 17.7 8.2 11.3*** 17  Beaver Reservoir 18D9 5340 Report delayed 6.2 1.7 5.2** 17  County Line 18D3 5070 12-28 20 6.7 12.4 6.7 2  County Line 18D6 4775 1-2 3 0.6 3.7 2.7 5  Meacham 18D5 4300 12-28 2 0.6 3.7 4.6 3  LOWER COLUMBER OF 18D3 5070 12-28 20 6.9 12.4 6.7 2  WAALLA WALLA RIVER  Tollgate 18D3 5070 12-28 20 6.9 12.4 6.7 2  TMATILIA RIVER  Tollgate 18D3 5070 12-28 20 6.9 12.4 6.7 2  TMATILIA RIVER  Tollgate 18D3 5070 12-28 20 6.9 12.4 6.7 2  TMATILIA RIVER  Tollgate 18D3 5070 12-28 20 6.9 12.4 6.7 2  TMATILIA RIVER  Tollgate 18D3 5070 12-28 20 6.9 12.4 6.7 2  TMATILIA RIVER  Tollgate 18D3 5070 12-28 20 6.9 12.4 6.7 2  TMATILIA RIVER  Tollgate 18D3 5070 12-28 20 6.9 12.4 6.7 2  TMATILIA RIVER  Tollgate 18D5 4300 12-28 2 0.6 3.7 4.6 3  Emigrant Springs 18D4 3925 12-28 0.4 T 2.1 5.1 2  JOHN DAY RIVER  *Anthony Lake 18E1 7125 12-27 39 13.8 17.9 8.9 11.3** 17  Clive Lake 18E7 6000 12-26 24 7.1 10.5 3.5 7.4 20  Blue with. Springs 18E16 5900 1-3 13 3.5 8.1 5.0 6.3  CROOKED RIVER  *Anthony Lake 18E1 7125 12-27 39 13.8 4.5 2.1 3.9 21  Schoolmarm 18E97 4775 1-2 3 0.7 1.9 2.6 6  CROOKED RIVER  *Aarks Creek 20E1 4540 12-31 0 0.0 1.5 1.4 2  DESCHUTES RIVER  Cascade Summit 22F3 4880 1-2 17 6.8 17.7 9.9 9  *Chemult 21F11 4760 1-1 2 0.6 8.3 3.7 4.4** 19  Bodg Pass 21E6 4755 1-2 31 10.6 25.6 15.9 18.0** 15	DRAINAGE BASIN	No.		Date		Water	:Water	Conten	t(In.)	Previous	
CRANDE RONDE RIVER		-		or	Depth	Content	t:	1	938-52	Yrs. of	
Anthony Lake	SNOW COURSE	State	Elev.	Survey	(In.)	(In.)	:1956	1955	Avg.	Record	
Moss Soring	GRANDE RONDE RIVER	-									
Moss Spring	Anthony Lake	18E1	7125	12-27	39	13.8	17.9	8.7	11,3**	17	
Tollgate 18D3 5070 12-28 20 6.7 12.4 6.7 2 Schoolmarm 18D7 4775 1-2 3 0.7 1.9 2.6 6 County Line 18D8 4775 1-2 3 0.6 3.7 2.7 5 Meacham 18D5 4300 12-28 2 0.6 3.7 4.6 3  LOWER COLUMBIA DRAINAGE  MALLA WALLA RIVER  Tollgate 18D3 5070 12-28 20 6.9 12.4 6.7 2  UNATILIA RIVER  Tollgate 18D3 5070 12-28 20 6.9 12.4 6.7 2  UNATILIA RIVER  Meacham 18D5 4300 12-28 2 0.6 3.7 4.6 3  Emigrant Springs 18D4 3925 12-28 0.4 T 2.1 5.1 2  JOHN DAY RIVER  *Anthony Lake 18E1 7125 12-27 39 13.8 17.9 8.9 11.3** 17 Clive Lake 18E7 6000 12-26 24 7.1 10.5 3.5 7.4 20  Blue attn. Springs 18E16 5900 1-3 13 3.5 8.1 5.0 6.3 20 Tiptom 18E7 5100 1-2 8 1.8 5.6 3.9 4  Schoolmarm 18ED7 4775 1-2 3 0.7 1.9 2.6 6  CROCKED RIVER  Cascade Summit 22F3 4880 1-2 17 6.8 17.7 9.9 9  *Chemult 21F11 4760 1-1 2 0.6 8.3 3.7 4.4** 19  Hogg Pass 21E6 4755 1-2 31 10.6 25.6 15.9 18.0** 15  EDOD RIVER  Phlox Point 21D8 5600 1-3 34 12.8 32.8 24.3 23.0** 17											
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County Line   1818		18D3	5070	12-28	20	6.9	12.4	6.7	- wa	2	
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### Tollgate	Meacham	1805	4300	12-28	2	0.6	3.7	4.6		3	
Tollgate 18D3 5070 12-28 20 6.9 12.4 6.7 2  UMATILLA RIVER  Tollgate 18D3 5070 12-28 20 6.9 12.4 6.7 2  Meacham 18D5 4300 12-28 2 0.6 3.7 4.6 3  Emigrant Springs 18D4 3925 12-28 •.4 T 2.1 5.1 2  JOHN DAY RIVER  *Anthony lake 18E1 7125 12-27 39 13.8 17.9 8.9 11.3** 17  Olive Lake 18E7 6000 12-26 24 7.1 10.5 3.5 7.4 20  Blue Atn. Springs 18E16 5900 1-3 13 3.5 8.1 5.0 6.3 20  Tipton 18E9 5100 1-2 8 1.8 5.6 3.9 4  Blue Atn. Summit 18E13 5098 1-2 7 1.8 4.5 2.1 3.9 21  Schoolmarm 18D7 4775 1-2 3 0.7 1.9 2.6 6  CROOKED RIVER  Marks Creek 20E1 4540 12-31 0 0.0 1.5 1.4 2  DESCHUTES RIVER  Cascade Summit 22F3 4880 1-2 17 6.8 17.7 9.9 9  *Chemult 21F11 4760 1-1 2 0.6 8.3 3.7 4.4*** 19  Hogg Pass 21E6 4755 1-2 31 10.6 25.6 15.9 18.0** 15  EOOD RIVER  Phlox Point 21D8 5600 1-3 34 12.8 32.8 24.3 23.0** 17	<u>L</u> <u>O</u>	WER C	<u>o</u> <u>L</u> <u>U</u>	<u>M B I A</u>	DR A	<u>INA</u>	<u>G</u> <u>E</u>				
### Tollgate	WALLA WALLA RIVER										
Tollgate 18D3 5070 12-28 20 6.9 12.4 6.7 2 Meacham 18D5 4300 12-28 2 0.6 3.7 4.6 3 Emigrant Springs 18D4 3925 12-28 •.4 T 2.1 5.1 2  JOHN DAY RIVER  **Anthony Lake 18E1 7125 12-27 39 13.8 17.9 8.9 11.3*** 17 Olive Lake 18E7 6000 12-26 24 7.1 10.5 3.5 7.4 20 Blue Mtn. Springs 18E16 5900 1-3 13 3.5 8.1 5.0 6.3 20 Tipton 18E9 5100 1-2 8 1.8 5.6 3.9 4 Blue Mtn. Summit 18E13 5098 1-2 7 1.8 4.5 2.1 3.9 21 Schoolmarm 18D7 4775 1-2 3 0.7 1.9 2.6 6  CROOKED RIVER  **CROOKED RIVER  Cascade Summit 22F3 4880 1-2 17 6.8 17.7 9.9 9 **Chemult 21F11 4760 1-1 2 0.6 8.3 3.7 4.4*** 19 Hogg Pass 21E6 4755 1-2 31 10.6 25.6 15.9 18.0** 15  **HOOD RIVER  Phlox Point 21D8 5600 1-3 34 12.8 32.8 24.3 23.0*** 17	Tollgate	18D3	5070	12-28	20	6.9	12.4	6.7		2	
Meacham   18D5   4300   12-28   2   0.6   3.7   4.6     3	UMATILIA RIVER										
Meacham   1805   4300   12-28   2   0.6   3.7   4.6     3	Tollgate	18D3	5070	12-28	20	6.9	12.4	6.7		2	
JOHN DAY RIVER  **Anthony lake	Meacham	1805		12-28	2	0.6		4.6		3	
*Anthony Lake	Emigrant Springs	18D4	3925	12-28	6.4	T	2.1	5.1		2	
Olive Lake  Blue Mtn. Springs  18E16 5900 1-3 13 3.5 8.1 5.0 6.3 20  Tipton  18E9 5100 1-2 8 1.8 5.6 3.9 4  Blue Mtn. Summit  18E13 5098 1-2 7 1.8 4.5 2.1 3.9 21  Schoolmarm  18D7 4775 1-2 3 0.7 1.9 2.6 6  CROOKED RIVER  Marks Creek  20E1 4540 12-31 0 0.0 1.5 1.4 2  DESCHUTES RIVER  Cascade Summit  22F3 4880 1-2 17 6.8 17.7 9.9 9  *Chemult  21F11 4760 1-1 2 0.6 8.3 3.7 4.4*** 19  Hogg Pass  21E6 4755 1-2 31 10.6 25.6 15.9 18.0*** 15  EOOD RIVER  Phlox Point  21D8 5600 1-3 34 12.8 32.8 24.3 23.0*** 17	JOHN DAY RIVER										
Olive Lake  Blue Mtn. Springs  18E16 5900 1-3 13 3.5 8.1 5.0 6.3 20  Tipton  18E9 5100 1-2 8 1.8 5.6 3.9 4  Blue Mtn. Summit  18E13 5098 1-2 7 1.8 4.5 2.1 3.9 21  Schoolmarm  18D7 4775 1-2 3 0.7 1.9 2.6 6  CROOKED RIVER  Marks Creek  20E1 4540 12-31 0 0.0 1.5 1.4 2  DESCHUTES RIVER  Cascade Summit  22F3 4880 1-2 17 6.8 17.7 9.9 9  *Chemult  21F11 4760 1-1 2 0.6 8.3 3.7 4.4*** 19  Hogg Pass  21E6 4755 1-2 31 10.6 25.6 15.9 18.0*** 15  EOOD RIVER  Phlox Point  21D8 5600 1-3 34 12.8 32.8 24.3 23.0*** 17	*Anthony Lake	18E1	7125	12-27	39	13.8	17.9	8.9	11.3**	17	
Blue Mtn. Springs   18E16   5900   1-3   13   3.5   8.1   5.0   6.3   20     Tipton   18E9   5100   1-2   8   1.8   5.6   3.9     4     Blue Mtn. Summit   18E13   5098   1-2   7   1.8   4.5   2.1   3.9   21     Schoolmarm   18D7   4775   1-2   3   0.7   1.9   2.6     6     CROOKED RIVER     Marks Creek   20E1   4540   12-31   0   0.0   1.5   1.4     2     DESCHUTES RIVER     Cascade Summit   22F3   4880   1-2   17   6.8   17.7   9.9     9     *Chemult   21F11   4760   1-1   2   0.6   8.3   3.7   4.4 **   19     Hogg Pass   21E6   4755   1-2   31   10.6   25.6   15.9   18.0 **   15     FOOD RIVER     Phlox Point   21D8   5600   1-3   34   12.8   32.8   24.3   23.0 **   17     Tipton   1.8						-			_	20	
Tipton 18E9 5100 1-2 8 1.8 5.6 3.9 4 Blue Mtn. Summit 18E13 5098 1-2 7 1.8 4.5 2.1 3.9 21 Schoolmarm 18D7 4775 1-2 3 0.7 1.9 2.6 6  CROOKED RIVER  Marks Creek 20E1 4540 12-31 0 0.0 1.5 1.4 2  DESCHUTES RIVER  Cascade Summit 22F3 4880 1-2 17 6.8 17.7 9.9 9 *Chemult 21F11 4760 1-1 2 0.6 8.3 3.7 4.4*** 19 Hogg Pass 21E6 4755 1-2 31 10.6 25.6 15.9 18.0*** 15  EOOD RIVER  Phlox Point 21D8 5600 1-3 34 12.8 32.8 24.3 23.0*** 17	Blue Mtn. Springs									20	
Schoolmarm   18D7 4775   1-2   3   0.7   1.9   2.6     6	Tipton		5100	1-2	8		5.6	3.9		4	
CROOKED RIVER  Marks Creek 20El 4540 12-31 0 0.0 1.5 1.4 2  DESCHUTES RIVER  Cascade Summit 22F3 4880 1-2 17 6.8 17.7 9.9 9  *Chemult 21F11 4760 1-1 2 0.6 8.3 3.7 4.4** 19  Hogg Pass 21E6 4755 1-2 31 10.6 25.6 15.9 18.0** 15  EOOD RIVER  Phlox Point 21D8 5600 1-3 34 12.8 32.8 24.3 23.0** 17			5098	1-2	7		4.5		3.9	21	
Marks Creek       20E1       4540       12-31       0       0.0       1.5       1.4        2         DESCHUTES RIVER         Cascade Summit       22F3       4880       1-2       17       6.8       17.7       9.9        9         *Chemult       21F11       4760       1-1       2       0.6       8.3       3.7       4.4***       19         Hogg Pass       21E6       4755       1-2       31       10.6       25.6       15.9       18.0***       15         HOOD RIVER         Phlox Point       21D8       5600       1-3       34       12.8       32.8       24.3       23.0***       17	Schoolmarm	18D7	4775	1-2	3	0.7	1.9	2.6		6	
DESCHUTES RIVER  Cascade Summit	CROOKED RIVER										
Cascade Summit 22F3 4880 1-2 17 6.8 17.7 9.9 9 *Chemult 21F11 4760 1-1 2 0.6 8.3 3.7 4.4** 19 Hogg Pass 21E6 4755 1-2 31 10.6 25.6 15.9 18.0** 15 HOOD RIVER  Phlox Point 21D8 5600 1-3 34 12.8 32.8 24.3 23.0** 17	Marks Creek	20El	4540	12-31	0	0.0	1.5	1.4		2	
*Chemult 21F11 4760 1-1 2 0.6 8.3 3.7 4.4** 19 Hogg Pass 21E6 4755 1-2 31 10.6 25.6 15.9 18.0** 15 <u>HOOD RIVER</u> Phlox Point 21D8 5600 1-3 34 12.8 32.8 24.3 23.0** 17	DESCHUTES RIVER										
*Chemult 21F11 4760 1-1 2 0.6 8.3 3.7 4.4** 19 Hogg Pass 21E6 4755 1-2 31 10.6 25.6 15.9 18.0** 15 <u>HOOD RIVER</u> Phlox Point 21D8 5600 1-3 34 12.8 32.8 24.3 23.0** 17	Cascade Summit	22F3	4880	1-2	17	6.8	17.7	9.9		9	
HOOD RIVER Phlox Point 21D8 5600 1-3 34 12.8 32.8 24.3 23.0** 17	*Chemult							3.7	4.4*	+ 19	
Phlox Point 21D8 5600 1-3 34 12.8 32.8 24.3 23.0** 17	Hogg Pass	21E6	4755	1-2		10.6	25.6				
	HOOD RIVER										
	Phlox Point	2108	5600	1-3	34	12.8	32.8	24.3	23.0%	÷ 17	
20111 OFFER 21DY 3700 1-3 8 2.0 14.6 9.2 8.45 16	Still Creek	21D9	3700	1-3	8	2.0		9.2			

\* Not directly located on this drainage area.

<sup>\*\*</sup> Average is for less than 15 years of record in the 1938-52 period but not less than 5 years.

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	OREGON	SNOW S	SURVEYS - ABOUT JANUARY 1, 1957						
			SNOW COVER MEASUREMENTS 1957 Past Record						
DRAINAGE BASIN	No.		Date	Snow	Water		Conten	t(In.)	Previous
and	or		of		Content	t:	1	938-52	Yrs. of
SNOw COURSE	State	Elev.	Survey	(In.)	(In.)	:1956	1955	Avg.	Record
WILLAMETTE VALLEY S'	TREAMS								
SANDY RIVER <sup>1</sup>					•				
Phlox Point	21D8	5600	1-3	34	12.8	32.8	24.3	23.0%	
Still Creek	21109	3700	1-3	8	2.0	14.6	9.2	8.4 <del>%</del>	. 10
CLACKAMAS RIVER									
Peavine Ridge	21014	3500	12-31	0.	0.0	10.6	6.2	6.3	19
Timothy Lake Big Bottom	21D18 21D15	3295 2118	12-31 12-31	0	0.0	9.5 T	 3.4		1
Lake Harriet	21D15	2045	12-31	0	0.0		0.9a		5
SANTIAM RIVERS									
Hogg Pass	21E6	4755	1-2	31	10.6	25.6	15.9	18.0%	_
Santiam Junction	21E5	3990	1-2	7	2.2	14.7	10.9	10.3%	
Marion Forks Whitewater Bridge	21E4 21E3	2730 2175	1-2 1-2	l T	0.7 T	9.1 3.7	4.8	5•5 <sup>☆</sup>	† 15 7
Detroit (new town)	22El	1500+	1-2	Ō	0.0	0.0	T		7
Detroit Dam	22E2	1580	1-2	0	0.0	0.0	0.0	<b>-</b> ·-	7
Mill City Snow Line: About 2	22E3	826	1-2	0	0.0	0.0	0.0		6
Snow Line: About 2	750,								
McKENZIE RIVER									
McKenzie	21E7	4800	12-29	33	13.3		11.8		5
Hogg Pass Santiam Junction	21E6 2135	47 <i>55</i> 3990	1-2 1-2	31	10.6	25.6 14.7	15.9 10.9	18.0∺ 10.3∺	
Dead Horse Grade	21E8	3800	12-29	7 4	1.2		8.5		5
White Branch Slide	21E9	2800	12-29	T	Т		1.8		5
Lost Creek Ranch	22E4			0	0.0		T		4
McKenzie Bridge Vida	22E5 22E6	1372 800	12 <b>-</b> 29 12 <b>-</b> 29		0.0		T 0.0		5 5
Snow Line: About 3		000	12-27	O	0.0		0.0		
MIDDLE FORK WILLA	METTE RI	VER							
Cascade Summit	22F3	4880	1-2	17	6.8	17.7	9.9		9
Champion Salt Creek Falls	22F9 22F4	4500 4000	1-2 1-2	4 2	0.6	9.3 8.8	9.8 7.4		8 7
Railroad Overpass	22F5	2750	1-2		0.0	1.0	1.0		7
McCredie Spring	22F6	2120	1-2	0	0.0	T	0.4		7
Oakridge	22F7	1310	1-2	0	0.0	0.0	T		7
Meridian Dam Snow Line: About 3	22F8 3000 t	750	1-2	0	0.0	0.0	0.0		5
	200								

<sup>-</sup>Not strictly a part of the Willamette drainage; these surveys are indicative of west slope conditions.

apartly estimated.

Average is for less than 15 years of record in the 1938-52 period but not less than 5 years.

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	0140001	DIVON D	OTOTAL	11200	1 0111/0.1	<u></u>	221		
			SNOW COVER MEASUREMENTS					-	
		•		1957		:]	Past Re	cord	
DRAINAGE BASIN	No.		Date	Snow	Water				Previous
and	or		of		Content				Yrs. of
SNOW COURSE	State	Elev.	Survey	(In.)	(In.)	:1956	1955	Avg.	Record
WILLAMETTE VALLEY ST	PREAMS (	Contid	)						
William Control of	14444	oono a.	L						
COAST FORK WILLAM	TTE RIV	ER (Row	River)						
Champion	22F9	4500	1-2	4	0.6	9.3	9.8		8
Golden Curry Creek	22F10	3136	1-2	T	T	1.6	1.4		6
Weaver Creek	22F11	• •	1-2	0	0.0	0.0	0.3ª		5
Lund Park	22F12	1740	1-2	0	0.0	0.0	T		6
Layng Creek R.S. Snow Line: About 30	22Fl3	1200	1-2	0	0.0	0.0	0.0		6
Snow Line: About 30	,000								
	OREGO	N AND C	ALIFORN.	IA COAS	ST DRAIN	IAGE			
UMPQUA RIVER									
OIL COLL LETAING									
Diamond Lake	22F18	5315	1-4	13	5.5		9.7	8.7	26
Champion	22F9	4500	1-2	4	0.6	9.3	9.8		8
N.Umpqua nr.Lake Cr.	. 22F16	4215	1-1	0	0.0		7.0		1
Trap Creek	22F17	3800	1-1	0	0.0				2
משווה הדווהה									
ROGUE RIVER *Park Headquarters	2200	6150	7 0	20	ור מ	20.0	75 77	22 724	+ 11
Scragg Mountain	22G5 22Hl	6450 6200	1-3	39 Measu	15.7	29.9	15.7	23.7 <sup>*</sup>	
*Annie Spring	22G6	6018	1-3	22	8.9	27.4	10.2	16.6%	
*Fourmile Lake	22G12	6000	_	Measu		19.2	2.4		3
Billie Creek Divide	22G13	5300		Measu		15.9	1.7	9.514	
Hobart Lake	22G17	5010		Measu		2.4	2.2		7
*Hyatt Prairie Res.	22G16	4900		Measu		6.7	2.2	3.7*	
Fish Lake	22G14	4865		Heasu		10.4	0.9	5.7*	
Siskiyou Summit	22G20				0.0				
Silver Burn	22G2	3720	1-1	Ö	0.0	6.5	5.1	3.8	
South Fork Canal	22G9		1-1	0	0.0	0.6	1.5	1.2*	
KI AMAMII TAKE DAGIN									
KLAMATH LAKE BASIN									
Park Headquarters	22G5	6450	1-3	39	15.7	29.9	15.7	23.7**	+ 11
Annie Spring	22G6	6018	1-3		8.9	27.4	10.2	16.6	+ 16
Four lile Lake	22G12	6000	Not	Measu	red	19.2	2.4		3
*Quartz Ntn. (COPCO)	9	5504	1-1	0	0.0		3.0	3.1%	£ 25
Sun Mountain	21G2	5350	12-28		5.8	20.6	3.8	11.1%	17
*Quartz Mtn.	20G6	5320	1-1		0.0	2.8		2.9%	
Billie Creek Divide				Measu		15.9	1.7	9.5**	
Taylor Butte	21G3		12-28	C	0.0	5.1			1
Lake of the Woods	22G15	4960	Кер	ort De	layed		8.4	3.8	19

<sup>\*</sup>Not directly located on this drainage area.

<sup>\*\*</sup>Average is for less than 15 years or record in the 1938-52 period but not less than 5 years.

aPartly estimated.

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			SNOW COVER FEASUREMENTS						
			1957 : Past Record						
DRAINAGE BASIN	No.		Date	Snow	Water				Previous
and	or		$\circ f$	-	Conten				Yrs. of
SNOW COURSE	State	Elev.	Survey	(In.)	(In.)	:1956	1955	Avg.	Record
KLAMATH LAKE BASIN (	Cont'd.	)							
Hyatt Prairie Res.	22G16	4900	Not	measur	red	6.7	2.2	3.7**	19
Gerber	21G4	4850	Repo	ort De	layed	19.2	2.0		6
Bly 101 Ranch(COPCO)	10	4800	12-31	0	0.0	0.5	1.6	0.6**	29
Chemult	21F11	4760	1-1	2	0.6	8.3	3.7	4.4%	
Yamsey (COPCO)	12	4600		ort de	layed	2.0	2.2	1.4**	
Kirk (COPCO)	6	4533	12-31	0	0.0	8.1	3.5	2.8	29
Beatty (COPCO)	1	4300	12-31	0	0.0	0.1	0.2	0.2	29
Crystal (COrco)	4	4200	12-31	0	0.0	7.2	3.8	3.4	27
Harriman Lodge (COPC		4200	12-31	0	0.0	2.0	1.8	1.6	29
Chiloquin (COPCO)	3	4187	12-31	0	0.0	T	0.0	0.8	28
Fort Klamath (COPCO)	5	4150	12-31	0	0.0	0.8	1.0	1.0	30
GOOSE LAKE BASIN				•					
Quartz Mtn. (COPCO)	2	5504	1-1	0	0.0		3.0		25
Quartz Mtn.	20G6	5320	1-1	0	0.0	2.8	3.2	2.9**	
CHEWAUCAN RIVER									
*Quartz ntn.	20G6	5320	1-1	0	0.0	2.8	3.2	2.9**	17 .
HARNEY BASIN		*							
Blue Mtn. Springs	18E16	5900	1-3	13	3.5	8.1	5.0	6.3	20
Idlewild Camp	18F3	5200	12-31	0	0.0	2.0	0.5	2.5**	
Lake Creek	18E18	5120		Measur		5.9			4
Rock Spring	18F1	5100	12-31	0.5	0.2	2.0	0.8	2.5**	
Stinking water	18F4	4800	1-1	0	0.0	1.1	4.0	1.9**	

<sup>(</sup>COPCO) - Water content determined by melting a measured sample (The California Oregon Power Co.'s Station).

<sup>\*</sup>Not directly located on this drainage area.

<sup>\*\*</sup>Average is for less than 15 years of record in the 1938-52 period but not less than 5 years.

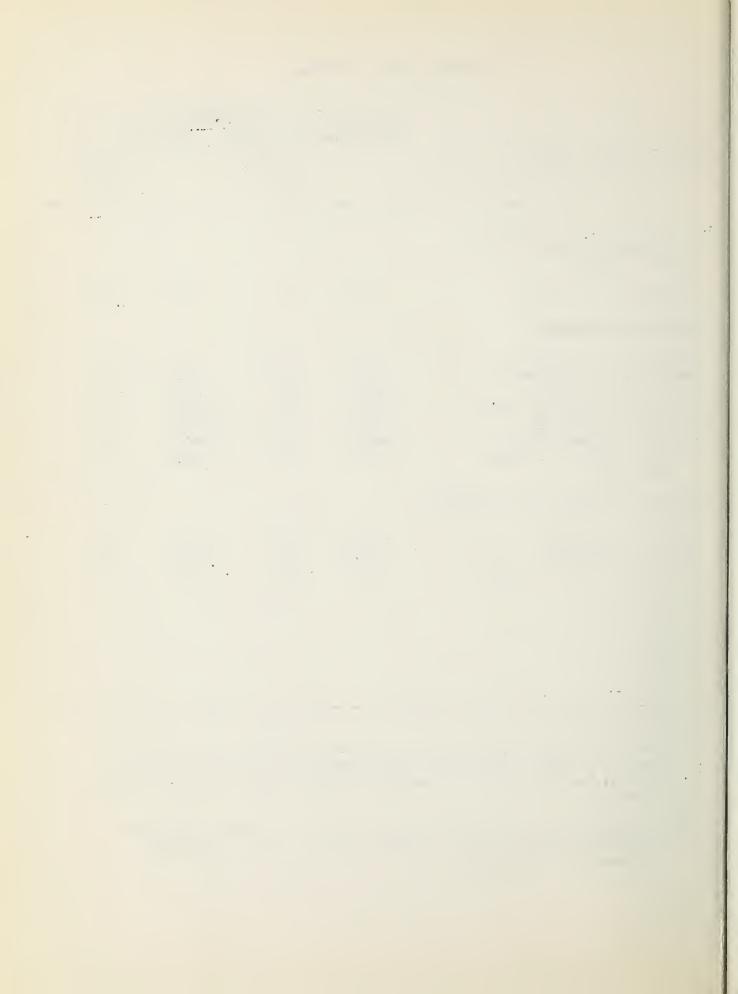
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# CURRENT OREGON STREAMFLOW

The second secon	Stream	flow in Thous	ands of a	acre feet
	Oct. 1956	- Dec. 1956	Dec.	1956
BASIN, RIVER and STATION	Total	As percent of 1938-52 Average	Total	
UPPER COLUMBIA DRAINAGE (Lower Snake in Oregon)				
Owyhee Res. net inflow	64.0	117	34.9	136
LOWER COLUMBIA DRAINAGE  Umatilla R. nr. Umatilla John Day R. at Service Cr.	53.6 110.1	88 78	37.1 51.6	100 64
Deschutes R. at Moody	1027.0	111	348.0	96
Hood R. and conduit nr. Hood R.	189.1	91	105.8	•
Willamette R. at Salemb	4417.0	87	2700.0	
Willamette R. at Albanyb	2853.0	96	1664.2	105
M.F. Willamette R. telow North Fk.	620.6	116	365.3	139
OREGON AND CALIFORNIA COAST DRAINAGE				
Umpqua R. nr. Elkton Rogue R. at Raygold Upper Klamath Lake net inflow	1531.0 653.9 443.6	101 135 146	935.9 339.4 174.1	106 135 140

<sup>&</sup>lt;sup>a</sup>Preliminary data supplied by: U. S. Geological Survey, Current Records Center, Portland, Oregon; The California Oregon Power Co., Medford, Oregon; and North and South Boards of Control, Owyhee Project, Nyssa, Oregon.

bStreamflow adjusted for storage in those of the following reservoirs which are above the station; Lookout Point, Detroit, Fern Ridge, Cottage Grove and Dorena.



DRAINAGE DIVISIONS	SeptOct	LL Nov.1956 Departure <sup>b</sup>	December 1956 Observed Departure <sup>b</sup>		
Southeastern	3.41	+ •57	•94	47	
Blue Mountains	3.68	-1.69	1.83.	79	
Wallowa Mountains	4.04	-1.88	2.80	+ .42	
Lower Columbia	2.65	-2.58	1.66	-1.04	
Upper Deschutes	2.62	-1.29	•99	-1.13	
Willamette Valley	12.21	-4.24	7.52	- •97	
Southwestern	6.90	45	3.30	-1.27	
South-Central	3.76	+ .12	1.10	93	

Southeastern

- Owyhee and lower Malheur drainages.

Blue Mountains

- Upper valleys of the Umatilla, John Day and Malheur, and the Powder, Burnt and Silvies drainages.

Wallowa Mountains - Imnaha, Wallowa and Catherine drainages.

Lower Columbia

- Lower valleys of the Walla Walla, Umatilla, John Day and Deschutes, and the Hood and Sandy drainages.

Upper Deschutes - Upper Deschutes and Crooked drainages.

<u>willamette Valley - All Willamette drainages.</u>

Southwestern - Umpqua, Rogue and Williamson drainages.

South-Central - Sprague, Lost and Interior Basin drainages.

Note - Precipitation shown in inches.

a - Preliminary analysis by U. S. Weather Bureau.

b - Departure from 15 year (1938-52) drainage division average

•  The following organizations cooperated in the Oregon snow survey work:

# STATE

Idaho Cooperative Snow Surveys
Nevada Cooperative Snow Surveys
Oregon Agricultural Experiment Station
Oregon State Engineer and Corps of State Watermasters
Oregon State Highway Engineers

## FEDERAL

Department of Agriculture
Forest Service
Soll Conservation Service
Department of Commerce
Weather Bureau
Department of the Interior
Bonneville Power Administration
Bureau of Reclamation
Fish and Wildlife Service
Geological Survey
Indian Service
National Park Service
Department of National Defense
Army Engineer Corps

### PUBLIC UTILITIES

California-Pacific Utilities Company Portland General Electric Company The California Oregon Power Company

#### MUNICIPALITIES

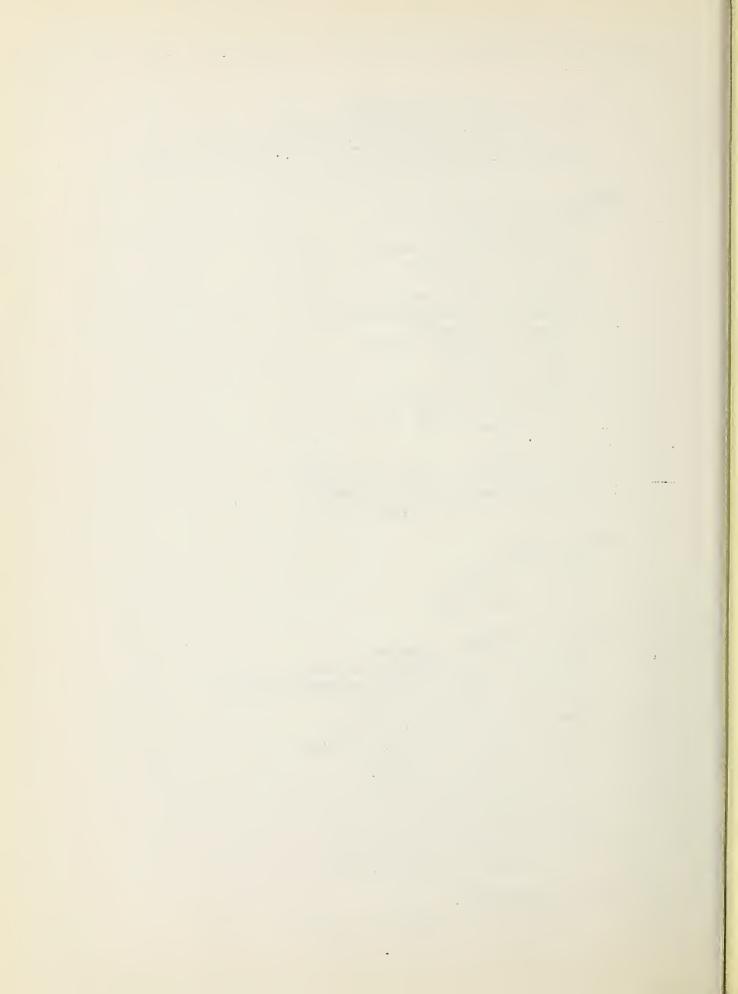
City of Baker City of La Grande City of The Dalles City of Walla Walla

## IRRIGATION DISTRICTS

Associated Ditch Companies
Central Oregon Irrigation District
Deschutes County Municipal Improvement District
East Fork Irrigation District
Grants Pass Irrigation District
Jordan Valley Irrigation District
Lakeview Water Users, Incorporated
Medford Irrigation District
North Unit Irrigation District
Ochoco Irrigation District
Rogue River Irrigation District
Talent Irrigation District
Vale-Oregon Irrigation District
Warmsprings Irrigation District

# PRIVATE ORGANIZATIONS

Amalgamated Sugar Company South Wasco Soil Conservation District The Crag Rats, Hood River, Oregon





# Federal - State - Private COOPERATIVE SNOW SURVEYS

Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"WATER IS THE WEST'S GREATEST RESOURCE"